REMARKS

Claims 1-11 remain in this application.

Rejection under 35 USC 112

The new claims are directed to a method for detecting and/or purifying only biomolecule and/or protein complexes. In this context, the Examiner's attention should be drawn to the examples of the application. Example 1 illustrates the purification of protein complexes from yeast. Example 2 also explains the purification and detection protein complexes and/or protein subunits of a complex from yeast.

To further support the suitability of the inventive method for the purification and identification of biomolecule and/or protein complexes, please find enclosed literature applying the inventive method (Gavin et al. (2002), Nature 415, 141-146). In this article, the purification and identification of about 200 protein complexes using a "tandem-affinity purification" (TAP), which corresponds to the inventive method, is described. This article clearly shows that the inventive method can be used for detecting and/or purifying biomolecule and/or protein complexes.

Rejection under 35 USC 102

The subject matter of the present application as defined by the new claims is novel over the cited Darzins et al. Amended claim 1 is directed to a method for detecting and/or purifying biomolecule and/or protein complexes. As to the complexes and/or complex formation, it is particularly important that the subunits of the complex be present in their native form. The inventive method advantageously enables the generation of highly purified biomolecule and/or protein complexes, which exhibit their natural activity and are present in form of their nature complexes. To express the biomolecule and/or protein complexes in their native form, the protein complex to be purified is preferably expressed in its nature hosts (co-reference: page 6, lines 20-21). Thus, the inventive method can be used for detecting and/or purifying biomolecule and/or protein complexes from any organism, i.e. also from eukaryotics. Thus, it is guaranteed that the subunits respectively protein complexes carry the correct proposed translational modifications which are often required for biological activity.

Darzins et al. describe a method for expressing a desired protein in gram-positive bacteria. First of all, it has to be emphasized that the object of Darzins et al. is a production/over-production of one desired protein (see page 1, line 9/10; page 23, line 2 and 11). Thus, Darzins et al. fails to describe a detection and/or purification of complexes. The method according to Darzins et al. does not at all enable the detection and/or purification of complexes as the Darzins-method is exclusively

suited for gram-positive bacteria and thus cannot provide the correct post-translational modifications which are required for the biological activity of subunits/complexes.

Rejections under 35 USC 103

The subject matter of the present invention is not rendered obvious by combining the cited Darzins et al. and Zheng et al. either.

Zheng et al. (Gene 186 (1997, 55-60)) only reports the use of calmodulin-binding protein for the purification of proteins over-expressed in E.coli (cf. e.g. page 55, first paragraph under the title "Introduction", page 56, right column under 2.1 as well as page 60, left column, lines 11-12). Further, Zheng does not suggest a purification procedure using at least two different affinity purification steps but rather the use of a single step using calmodulin affinity chromatography (cf. abstract, lines 2-3).

The present invention therefore provides a system allowing detection and/or efficient purification of biomolecules and/or proteins expressed at low level, preferably in their natural hosts, while maintaining them in functional complexes. It was not known previously that a combination of two affinity tags could be used for this purpose. The combination of tags required for this new application was not known and previously publications did not reveal that the combination disclosed would be successful.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

The Commissioner is hereby authorized to charge any additional fees which may be required in this application to Deposit Account No. 06-1135.

Respectfully submitted,
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